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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,706	11/25/2003	Peter J. Schubert	DP-308423	7484
22851	7590	09/02/2005	EXAMINER	
DELPHI TECHNOLOGIES, INC.			ARTHUR JEANGLAUDE, GERTRUDE	
M/C 480-410-202			ART UNIT	
PO BOX 5052			PAPER NUMBER	
TROY, MI 48007			3661	

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/722,706

Applicant(s)

SCHUBERT, PETER J.

Examiner

Gertrude Arthur-Jeanglaude

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/25/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

Claims 1-31 are presented for examination.

### ***Information Disclosure Statement***

The IDS with number 9947384 PCT in the foreign Patent documents on 1449- form is not considered because a copy was not provided.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Schiffmann (U.S. Patent No. 6,192,305).

As to claim 1, 18, Schiffmann discloses a roll angle estimation apparatus and method for predicting a future roll angle of a vehicle, the apparatus comprising: an angular accelerometer for sensing angular acceleration of a vehicle and producing an output signal indicative thereof (See col. 1, lines 40-53); an integrator (110; as shown in Fig. 2A) for integrating the sensed angular acceleration signal and producing an angular rate (See col. 7, lines 53-67); and a predictor for predicting a future roll angle of the vehicle as a function of the sensed angular acceleration, the angular rate, and a

current roll angle (See abstract).

As to claims 2, 11, 19, 26, Schiffmann discloses the current roll angle is determined by integrating the angular rate (See col. 7, lines 49-65).

As to claims 3, 12, Schiffmann discloses the predictor comprises a Taylor series-based predictor for predicting the future roll angle as a quadratic extrapolation (See col. 8, lines 9-67).

As to claims 4, 13, 23, 30, Schiffmann discloses the angular accelerometer senses roll angular acceleration about a longitudinal axis of the vehicle, and the predictor predicts the future roll angle about the longitudinal axis (See col. 2, lines 37-53; col. 6, lines 3-11).

As to claims 5, 14, Schiffmann discloses the integrator and predictor are performed by a controller (MCU) (See col. 4, lines 48-64).

As to claim 6, Schiffmann discloses the controller further compares the predicted future roll angle to a threshold value and predicts an anticipated vehicle overturn condition based on the comparison (See col. 2, lines 14-25).

As to claims 7, 15, 24, 31, Schiffmann discloses the predictor performs a quadratic as a extrapolation (See col. 8, lines 10-67).

Art Unit: 3661

As to claims 8, 16, 21, 28, Schiffmann discloses the integrator performs a numerical integration of the angular acceleration signal based on time steps that vary as a function of rate of change of the acceleration signal (See col. 7, lines 49-67-col. 8, lines 1-9).

As to claims 9, 17, 22, 29, Schiffmann discloses the integrator performs a numerical integration of the angular acceleration signal based on time steps that vary as a function of magnitude of the acceleration signal (See col. 10, lines 46-64).

As to claims 10, 25, Schiffmann discloses a rollover sensing apparatus for predicting an overturn condition for a vehicle, comprising: an angular accelerometer for sensing angular acceleration of a vehicle and producing an output signal indicative thereof (See col. 1, lines 40-53); an integrator (110 as shown in Fig. 2A) for integrating the sensed angular acceleration signal and producing an angular rate (See col. 7, lines 53-67); a predictor for predicting a future roll angle of the vehicle as a function of the sensed angular acceleration, the angular rate, and a current roll angle (See abstract); a comparator (124) for comparing the predicted future roll angle to a threshold value; and an output (50) for generating an output signal indicative of an anticipated vehicle overturn condition prediction based on said comparison (See col. 9, lines 21-34).

Art Unit: 3661

As to claims 20, 27, Schiffmann discloses the steps of: comparing the predicted future roll angle to a threshold value; and generating a vehicle overturn condition signal based on the comparison (See col. 9, lines 21-34).

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gertrude Arthur-Jeanglaude whose telephone number is (571) 272-6954. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GAJ

*GAJ*

August 26, 2005

*Gertrude A. Jeanglaude*  
GERTRUDE A. JEANGLAUDE  
PRIMARY EXAMINER